

IN THE CLAIMS

1. (Original): A method for delivering a stent into a body lumen, said method comprising the steps of:

(1) providing a stent delivery device comprising an outer tube having a proximal end and a distal end and sized to hold said stent therein in a radially constricted condition, an inner tube within said outer tube having a proximal end and a distal end, and a balloon fixedly mounted on said inner tube and positioned within said outer tube;

(2) positioning said stent in a radially constricted state within said outer tube in a longitudinal position so that at least a portion of said stent is longitudinally contiguous with at least a portion of said balloon;

(3) inflating said balloon so as to trap said stent between said balloon and said outer tube;

(4) guiding said delivery device within said body lumen to position said stent within said delivery device to a position within said body lumen; and

(5) moving said outer tube proximally relative to said inner tube, said balloon and said stent so as to at least partially release said stent from said outer tube.

2. (Original): The method of claim 1 further comprising the step of:

(6) moving said outer tube distally relative to said inner tube, said balloon and said stent so as to at least partially recapture said stent within said outer tube.

3. (Original): The method of claim 1 wherein step (3) is performed before step (4) and after step (2).
4. (Original): The method of claim 1 wherein step (4) is performed before step (3).
5. (Original): The method of claim 1 wherein step (3) is performed as part of the process of manufacturing said stent delivery device.
6. (Original): The method of claim 5 wherein step (2) is performed after step (1).
7. (Original): The method of claim 6 wherein step (2) is performed just prior to step (4).
8. (Original): The method of claim 1 further comprising the steps of:
(7) deflating said balloon after said stent is fully released from said outer tube;
(8) moving said inner tube proximally relative to said outer tube so as to recapture said deflated balloon in said outer tube.

9. (Original): The method of claim 8 further comprising the step of:
(9) withdrawing said stent delivery device from said body lumen.
10. (Currently Amended): The method of claim 1 wherein said stent is a self-expanding braided stent.
11. (Currently Amended): The method of claim 8 wherein said stent is a self-expanding braided stent.
12. (Cancelled).
13. (Original): The method of claim 1 wherein step (3) comprises inflating said balloon sufficiently to hold said stent stationary relative to said outer tube when said outer tube is moved longitudinally relative to said inner tube.
14. (Currently Amended): ~~The method of claim 1~~ A method for delivering a stent into a body lumen, said method comprising the steps of:
(1) providing a stent delivery device comprising an outer tube having a proximal end and a distal end and sized to hold said stent therein in a radially constricted condition, an inner tube within said outer tube having a proximal end and a distal end, and a balloon fixedly mounted on said inner tube and positioned within said outer tube;

(2) positioning said stent in a radially constricted state within said outer tube in a longitudinal position so that at least a portion of said stent is longitudinally contiguous with at least a portion of said balloon;

(3) inflating said balloon so as to trap said stent between said balloon and said outer tube;

(4) guiding said delivery device within said body lumen to position said stent within said delivery device to a position within said body lumen; and

(5) moving said outer tube proximally relative to said inner tube, said balloon and said stent so as to at least partially release said stent from said outer tube;

wherein said balloon is shorter than said stent and wherein step (2) comprises positioning at least a portion of said stent longitudinally aligned with said balloon.

15. (Currently Amended): ~~The method of claim 1~~ A method for delivering a stent into a body lumen, said method comprising the steps of:

(1) providing a stent delivery device comprising an outer tube having a proximal end and a distal end and sized to hold said stent therein in a radially constricted condition, an inner tube within said outer tube having a proximal end and a distal end, and a balloon fixedly mounted on said inner tube and positioned within said outer tube;

(2) positioning said stent in a radially constricted state within said outer tube in a longitudinal position so that at least a portion of said stent is longitudinally contiguous with at least a portion of said balloon;

(3) inflating said balloon so as to trap said stent between said balloon and said outer tube;

(4) guiding said delivery device within said body lumen to position said stent within said delivery device to a position within said body lumen; and

(5) moving said outer tube proximally relative to said inner tube, said balloon and said stent so as to at least partially release said stent from said outer tube;

wherein said balloon is shorter than said stent, said stent having a proximal end and a distal end and wherein step (2) comprises positioning said stent so that said balloon is adjacent said proximal end of said stent.

16. (Original): The method of claim 15 wherein said balloon comprises first and second balloons and wherein step (2) comprises positioning said stent so that said first balloon is close to said proximal end of said stent and said second balloon is close to said distal end of said stent.

17. (Original). The method of claim 1 wherein step (3) comprises inflating balloon through said inner tube.

18. (Original): The method of claim 1 wherein step (1) comprises providing an inflation tube within said outer tube separate from said inner tube and wherein step (3) comprises introducing a fluid into said balloon via said inflation tube.

19. (Cancelled).

20. (Cancelled).

21. (Cancelled).

22. (Cancelled).

23. (Cancelled).

24. (Cancelled).

25. (Cancelled).

26. (Cancelled).

27. (New): The method of claim 1 wherein said balloon has a nominal outer diameter beyond which further expansion is minimal with increasing pressure that is smaller than a diameter of said body lumen.

28. (New): The method of claim 1 wherein said outer tube has an inner diameter, said stent has a thickness, and said balloon has a nominal outer diameter beyond which further expansion is minimal with increasing pressure, said nominal outer diameter of said balloon being less than said inner diameter of said outer tube but greater than said inner diameter of said outer tube minus said thickness of said stent.

29. (New): The method of claim 1 wherein said balloon is formed of a material that is more compliant than a material from which said outer tube is formed.